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CALIFORNIA OFFICE:
COSTA MESA, CALIFORNIA

Date: September 15, 2000

Docket No.: 0879-0273P

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

This is a Request for filing a ☒ continuation ☐ divisional application under 37 C.F.R. § 1.53(b) of pending prior Application No. 08/916,173 filed on August 21, 1997, the entire contents of which are hereby incorporated by reference, by

DIGITAL CAMERA WITH DETACHABLE MEMORY

for

Atsushi MISAWA

1. ☒ Enclosed is an application consisting of specification, claims, declaration and drawings/photographs (if applicable).

2. ☒ The filing fee has been calculated as follows:

			LARGE ENTITY	SMALL ENTITY
	BASIC FEE		$690.00	$345.00
	NUMBER FILED	NUMBER EXTRA	RATE FEE	RATE FEE
TOTAL CLAIMS	8-20 =	0	x 18 = $0.00	x 9 = $0.00
INDEPENDENT CLAIMS	1-3 =	0	x 78 = $0.00	x 39 = $0.00
☐ MULTIPLE DEPENDENT CLAIMS PRESENTED			+ $260.00	+ $135.00
		TOTAL		$0.00

3. ☒ A check in the amount of 690.00 to cover the filing fee and recording fee (if applicable) is enclosed.

4. ☐ Please charge Deposit Account No. 02-2448 in the amount of $0.00. A triplicate copy of this request is enclosed.

5. Amend the specification by inserting before the first line thereof the following:

   a. ☒ --This application is a ☒ continuation ☐ divisional of co-pending Application No. 08/916,173, filed on August 21, 1997, the entire contents of which are hereby incorporated by reference.--

   b. ☐ --This application is a ☐ continuation ☐ divisional of co-pending Application No. , filed on . Application No. is the national phase of PCT International Application No. PCT/_____/ filed on _____ under 35 U.S.C. § 371. The entire contents of each of the above-identified applications are hereby incorporated by reference.--

6. ☐ Transfer the drawings/photographs from the prior application to this application and abandon said prior application as of the filing date accorded this application. A duplicate copy of this request is enclosed for filing in the prior application file.

7. ☒ Enclosed is/are four (4) sheet(s) of formal drawings and/or photographs.

8. ☐ A statement claiming small entity status was filed in prior Application No. on _____. See the attached copy of the statement claiming small entity status.

9. ☒ The prior application is assigned to Fuji Photo Film Co., Ltd.

10. ☒ A Preliminary Amendment is enclosed.

11a. ☒ Priority of Application No(s). 8-219519 filed in JAPAN on August 21, 1996 is/are claimed under 35 U.S.C. § 119. See attached copy of the Letter claiming priority filed in the prior application on February 4, 1998.

11b. ☐ Priority of International Appln. _____ filed on _____ under the Patent Cooperation Treaty and _____ Application No. _____ filed in _____ on ___ under 35 U.S.C. § 119 are hereby reclaimed.

12. ☒ An Information Disclosure Statement and PTO-1449 form(s) are attached hereto for the Examiner's consideration.

13. ☒ Address all future communications to:

BIRCH, STEWART, KOLASCH & BIRCH, LLP
P.O. Box 747
Falls Church, VA 22040-0747
Telephone: (703) 205-8000
or
Customer No. 2292

14. ☒ An extension of time for two (2) month(s) until September 24, 2000 has been submitted in parent Application No. 08/916,173 in order to establish co-pendency with the present application.

15. ☒ Also enclosed herewith is the following:

Letter Claiming Priority

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By ______________________
Donald J. Daley, Reg. No. 34,313

P.O. Box 747
Falls Church, VA 22040-0747
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Attachments

(Rev. 09/15/99)

PATENT
0879-0273P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: Atsushi MISAWA

Rule 53(b) Divisional
Application of
Application No.: 08/916,173

Filed: September 15, 2000

For: DIGITAL CAMERA WITH DETACHABLE MEMORY

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, DC 20231

September 15, 2000

Sir:

The following preliminary amendments and remarks are respectfully submitted in connection with the above-identified application.

IN THE TITLE

Please replace the existing title with the following new title:

--DIGITAL CAMERA WITH DETACHABLE MEMORY--

IN THE ABSTRACT

Please replace the Abstract with the new Abstract of the Disclosure attached to the end of this Amendment on a separate sheet.

IN THE SPECIFICATION

Page 1

Line 10, change "memory, and in" to --memory. In--

Line 16, change "priced, and thus," to --priced. Thus,--

Page 2

Line 8, change "be small enough." to --be very small.--

Line 12, after "which" insert --not only-- and change "card but can be" to --card, which can also be--

Line 14, change "can easily" to --which can further easily--

Page 3

Line 4, change "photographing, and thus," to --photographing. Thus,--

After line 27, please insert the following paragraph:

--These and other objects of the present application will become more readily apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.--

Page 4

Line 21, after "not" insert --yet-- and after "10" insert --.-- (period)

Line 22, change "yet, and in" to --In--

Page 5

Line 2, change "thereof, and the" to --thereof. The--

Line 23, change "signals, and each" to --signals. Each--

Line 24, before "sequentially" insert --then--

Page 6

Line 20, change "for" to --the--

Line 21, after "(capturing)" insert --of images--

Line 22, change "26, controls" to --26. It further controls--

Line 23, change "etc., controls" to --etc. and controls--

Line 24, change "controlling" to --to control-- and change "24, controls" to --24. Finally, it controls--

Line 26, change "44, controls" to --44 and controls--

Page 7

Line 9, change "indicate to" to --indicate such (to--

Line 10, change "that effect." to --that effect).--

Page 9

Line 1, change "be small." to --be relatively small.--

IN THE CLAIMS

Please cancel claims 1-5 without prejudice or disclaimer of the subject matter contained therein.

Please amend the claims as follows:

6. (Amended) A digital camera [which captures object] for capturing images, [via a taking lens and an image pickup device, said digital camera] comprising:

a built-in memory for storing image data representing captured [object] images, said built-in memory being provided in a camera body;

a detachable [external] memory card for storing [the] image data, said detachable [external] memory card having a larger storage capacity than said built-in memory;

[a connector] an insertion slot for [connecting with] receiving said detachable [external] memory card;

detecting means for detecting [that said connector connects with] insertion of said detachable [external] memory card into said insertion slot; and

memory control means for automatically transferring the image data from said built-in memory to said detachable [external] memory card upon said detecting means detecting said [connection] insertion [and wherein when said detecting means detects that said connector connects with said external memory, said memory control means transfers the image data stored in said built-in memory to said external memory and initializes said built-in memory to allow new capturing].

Please add the following new claims:

-- 7. The digital camera of claim 6, wherein said built-in memory is initialized to allow for new image capturing upon said memory control means automatically transferring said image data.

8. The digital camera as defined in claim 6, wherein said camera body, in an insertional direction of said detachable memory card, is shorter than said detachable memory card in the insertional direction of said detachable memory card.

9. The digital camera of claim 6, wherein said detachable memory card is mainly for attachment when the digital camera is not being used to capture images and is normally detached when the digital camera is being used to capture images, and the digital camera is usable to capture images when the detachable memory card is detached from and inserted into the insertion slot.

10. The digital camera of claim 6, wherein when said detachable memory card is inserted into the insertion slot, said detachable memory card is partially exposed so that a user can grasp said detachable memory card by the exposed part to remove said detachable memory card from said camera body.

11. The digital camera as defined in claim 6, wherein when said detachable memory card is inserted into the insertion slot, more than 1/3 of said detachable memory card is exposed in an insertional direction of said detachable memory card.

12. The digital camera of claim 6, wherein when said detachable memory card is inserted in said insertion slot, more than 1/3 of said detachable memory card externally extends from said digital camera.

13. The digital camera of claim 6, wherein said detachable memory card is mainly for attachment when the digital camera is not being used to capture images and is normally detached when the digital camera is being used to capture images. --

REMARKS

Claims 6-13 are now present in this application, claims 1-5 being canceled without prejudice or disclaimer of the subject matter therein, and new claims 7-13 being added by the present Preliminary Amendment.

The present application now includes claims, many of which were rejected during the prosecution of parent application no. 08/916,173. Hereafter, an explanation will be given as to why the previous rejections do not apply to independent claim 6 and therefore why each of claims 6-13 of the present application should be allowed.

In the parent application, independent claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakui in view of Macko et al. Applicant believes that this rejection is incorrect and is therefore traversed, for at least the following reasons.

With regard to the Examiner's rejection, the Examiner essentially relies on the teachings of Wakui, alleging that it is notoriously well-known to have a removable

memory card conform to the standards of PCMCIA (Personal Computer Memory Card International Association) so that images captured by digital camera can be seen on a computer display; and on the teachings that Macko et al. allegedly teaches automatic transfer to a memory card once inserted into an interface.

With regard to Macko et al., the device includes a messaging peripheral 100, a PCMCIA memory-only interface 119, and an electronic information processing device 200. Even assuming arguendo that Macko et al. stated that when coupled to the electronic information processing device 200, the messaging peripheral 104 may operate to automatically deliver received messages in real time, there is still no teaching or suggestion in Macko et al. to combine its teachings with those of Wakui for at least the following reasons.

COMBINATION IMPROPER

It would not be obvious for one of ordinary skill in the art to combine the teachings of anything providing automatic transfer of images with the teachings of Wakui. Wakui is clearly directed to a camera which teaches **selective transfer** between an internal memory and an external memory.

Wakui clearly includes a selection switch 22 which selects between a flash memory 20 and an IC memory card 31. By including such a switch, this clearly teaches away from automatic transfer to an external memory as is claimed in claim 6 of the present application. Thus, it would not be obvious to modify Wakui to provide automatic image data transfer from a built-in memory to a detachable memory card

upon detecting insertion of the detachable memory card as set forth in claim 6. As Wakui fails to teach or suggest such a feature, and as its teachings would be destroyed if combined with Macko et al., Applicant respectfully submits that claim 6 is allowable.

In order for a combination of references to be found to render an invention obvious, there must be some suggestion or teaching in the art that the combination be made. *Orthokinetics, Inc. v. Safety Travel Chairs Inc.*, 806 F.2d 1565 (Fed. Cir. 1986); *In re Stencel*, 828 F.2d 751 (Fed. Cir. 1987). Obviousness cannot be established by primarily combining the teachings of the prior art to produce the claimed invention unless there is some teaching, suggestion, or incentive supporting the combination. *Carrella v. Starlight Archery*, 804 F.2d 135 (Fed. Cir. 1986). There must be some reason, suggestion, or motivation found in the prior art whereby a person or ordinary skill in the field of the invention would make the combination. That knowledge cannot come from Applicants' invention itself. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992). The use of hindsight to reconstruct an invention is clearly impermissible. *Uniroyal Inc. v. Rudlan-Wiley Corp.*, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988); *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The Examiner has found no such teaching or suggestion that the combination be made and has only utilized Applicant's invention, in hindsight, as motivation for reference combination. Such use of hindsight is clearly impermissible and therefore it is respectfully requested that claim 6, and all claims dependent thereon, be allowed.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 6-13 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Donald J. Daley, Reg. No. 34,313 at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By: _____
Donald J. Daley, Reg. No. 34,313

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ABSTRACT OF THE DISCLOSURE

A digital camera stores image data, which represent object images captured via a taking lens and a charge coupled device, in a built-in memory, which is provided in a camera body and which is able to store image data of plural object images. When the built-in memory is filled with the image data, a memory card is inserted into a card slot so that the memory card connects to a card connector, and then the image data stored in the built-in memory are automatically transferred to the memory card. In this case, more than 1/3 of the memory card in the insertional direction is exposed, and hence the camera can be small-sized without being restricted by standards of the memory card.

DIGITAL CAMERA

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates generally to a digital camera, and more particularly to a digital camera which is provided with a built-in memory for storing image data of plural images.

Description of Related Art

There are two types of conventional digital cameras: in one type, image data representing object images, which are captured via a taking lens and an image pickup device, are stored in a built-in memory, and in the other type, image data are stored in an external memory such as a memory card which is inserted and pulled out from the camera body.

In the above-stated conventional digital cameras, the built-in memory and the external memory must have a large capacity in order to increase the number of capturing images. If the built-in memory has a large capacity, the built-in memory is large-sized and high-priced, and thus, the camera is large-sized and high-priced. For this reason, there is a problem in that the digital camera which uses the built-in memory cannot increase the number of capturing images. In order to transfer the image data from the built-in memory to a personal computer, etc., the digital

camera must be connected to the personal computer via an interface cable in a complicated manner.

On the other hand, in the case of the digital camera which uses a memory card in accordance with the standards of the Personal Computer Memory Card International Association (a PCMCIA card) for example, which is ordinarily used in a laptop computer, etc., the camera body must be provided with a card slot, which houses the memory card. Thus, the camera cannot be small enough.

SUMMARY OF THE INVENTION

The present invention has been developed in view of the above-described circumstances, and has as its object the provision of a digital camera which uses an external memory such as a memory card but can be small-sized without being restricted by the size of the external memory and can easily increase the number of capturing images.

In order to achieve the above-mentioned object, a digital camera of the present invention, which captures object images via a taking lens and an image pickup device, comprises: a camera body; a built-in memory for storing image data representing captured object images, which built-in memory is provided in the camera body; a detachable memory card for storing the image data, which memory card has a larger capacity than the built-in memory; a card slot for receiving the memory card, which card slot is provided on the camera body; a connector for connecting with the memory card, which connector is arranged at an internal end of the card slot; a memory control means for transferring the image data from the built-in memory to the memory card; and in the digital camera of the

present invention, when the memory card is inserted into the card slot and connects to the connector, the memory card is partially exposed.

That is, according to the present invention, there is no need to use the memory card during the photographing, and thus, the camera can be small-sized without being restricted by standards of the memory card. If the built-in memory is filled with the image data, the memory card is connected to the connector so that the image data stored in the built-in memory can be transferred to the memory card. Thus, the capacity of the built-in memory does not restrict the number of capturing images.

Moreover, the digital camera of the present invention further comprises: a detecting means for detecting that the connector connects with an external memory such as a memory card; a memory control means for transferring the image data from the built-in memory to the external memory; and in the digital camera of the present invention, when the detecting means detects that the connector connects with the external memory, the memory control means transfers the image data stored in the built-in memory to the external memory and initializes the built-in memory to allow new capturing. That is, if the built-in memory is filled with the image data, the image data can automatically be transferred from the built-in memory to the external memory only by connecting the external memory in the connector. Then, the built-in memory is automatically initialized, and thus new image data can be stored in the built-in memory. Since the transfer of the image data and the initialization of the built-in memory are automatically performed, the complicated operations are not required for the transfer of the image data and the initialization of the built-in memory. Moreover, the important image data can be prevented from being lost by the incorrect operation.

BRIEF DESCRIPTION OF THE DRAWINGS

The nature of this invention, as well as other objects and advantages thereof, will be explained in the following with reference to the accompanying drawings, in which like reference characters designate the same or similar parts throughout the figures and wherein:

FIG. 1 is a view illustrating an embodiment for the digital camera according to the present invention;

FIG. 2 is a view illustrating the digital camera in FIG. 1 when a memory card is mounted;

FIG. 3 is a longitudinal sectional view of the digital camera in FIG. 1, including a card slot;

FIG. 4 is a block diagram illustrating the inner construction of the digital camera in FIG. 1;

FIG. 5 is a view illustrating another embodiment for the digital camera according to the present invention; and

FIG. 6 is a view illustrating a camera substrate of the digital camera in FIG. 5, including a card connector, etc.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIGS. 1 and 2 illustrate an embodiment for a digital camera according to the present invention. In FIG. 1, a detachable memory card 12, such as a PCMCIA card, has not been inserted in a digital camera 10 yet, and in FIG. 2, the memory card 12 has already been inserted in the digital camera 10. FIG. 3 is a longitudinal sectional view of the digital camera 10 including a card slot 14.

As illustrated in the drawings, the digital camera 10 is provided with the card slot 14 on the side thereof, and the card slot 14 receives a part (about 1/4 of the memory card 12 in an insertion direction shown with an arrow in FIG. 1) of the memory card 12.

As shown in FIG. 3, a card connector 16, which connects with the memory card 12, is arranged at the inner end of the card slot 14. The card connector 16 is mounted on a camera substrate 18, on which a built-in memory and a variety of circuits are mounted.

The digital camera 10 is small-sized as is clear from the comparison with the memory card 12. During the photographing, the memory card 12 is not mounted on the camera 10. Image data, which are captured during the photographing, are stored in a built-in memory, which will be described later. When the built-in memory is filled with the image data, the memory card 12 is connected to the card connector 16 via the card slot 14 so that the image data can be transferred from the built-in memory to the memory card 12.

In FIG. 1, 20 is a taking lens, 22 is a finder, 24 is a strobe light, and 26 is a shutter release button.

FIG. 4 is a block diagram illustrating the inner construction of the digital camera 10 shown in FIG. 1. When the shutter release button 26 (see FIG. 1) is pressed, an object image, which is formed on a light-receiving surface of a charge coupled device (CCD) 30 via the taking lens 20, is photoelectrically transduced to electric signals, and each signal is sequentially read out as a CCD output signal by a driving pulse, which is supplied by a CCD driver 38.

The CCD output signals are sent to an analog processing circuit 32, which includes a CDS cramp circuit, a gain adjusting circuit, a color

balance adjusting circuit, etc. After the CCD output signals are analog-processed, the CCD output signals are converted into digital signals by an A/D converter 34, and the converted digital signals are output to a digital image processing circuit 36. According to timing signals, which are supplied by a timing generator 40, the driving pulses are output from the CCD driver 38, and the analog processing circuit 32, the A/D converter 34, etc. are synchronized.

The digital image processing circuit 36 includes a luminance signal generating circuit, a color difference signal generating circuit, a gamma correcting circuit, a data compressing circuit, etc. The digital image processing circuit 36 outputs the image data, which have been processed in the above-mentioned circuits, to the built-in memory 42 (e.g. a flash memory built in the camera 10). The image data are stored in the built-in memory 42 under the control of a memory control circuit 44. The built-in memory 42 has a capacity for storing the image data of plural capturing images (e.g. from ten to dozens). The memory card 12 has a larger capacity (e.g. from forty to one hundred of images) than the built-in memory 42.

A system control circuit 46 unites and controls the circuits in the camera 10. The system control circuit 46 controls for photographing (capturing) in accordance with signals from an operated unit 48 including the shutter release button 26, controls a liquid crystal display unit (LCD) 50 to display the number of captured images, etc., controls the strobe light control circuit 52 controlling the emission of the strobe light 24, controls writing/reading the image data in/out the built-in memory 42 via the memory control circuit 44, controls the transfer of the image data when the memory card 12 is inserted as described later, and the like.

Next, an explanation will be given about the operation of the digital camera 10.

As stated previously, the digital camera 10 is used during the photographing in such a state that the memory card 12 is not inserted into the card slot 14. The image data, which are captured in each photographing, are stored in the built-in memory 42. The system control circuit 46 makes the LCD 50 display the number of captured images stored in the built-in memory 42, and when the built-in memory 42 is filled with the image data, the system control circuit 46 makes the LCD 50 indicate to that effect.

When the built-in memory 42 is filled with the image data, or when the image data stored in the built-in memory 42 are input to a laptop computer, etc., the memory card 12 is inserted into the card slot 14 so that the memory card 12 can be connected to the card connector 16 (see FIG. 2). The system control circuit 46 is able to detect whether the card connector 16 has connected with the memory card 12 or not, for example, according to information from a specific terminal pin of the card connector 16. When the system control circuit 46 detects that the card connector 16 connects with the memory card 12, the system control circuit 46 reads out the image data from the built-in memory 42 via the memory control circuit 44, and stores the readout image data in the memory card 12 via an interface (not shown) and the card connector 16. After the transfer of the image data stored in the built-in memory 42 is completed, the system control circuit 46 clears the built-in memory 42 and initializes the number of captured images, etc. displayed on the LCD 50, and thus preparing for the new capturing (photographing).

FIG. 5 is a view illustrating another embodiment for the digital camera according to the present invention. Parts similar to those in FIG. 1 are denoted by the same reference numerals, and a detailed explanation of them will be omitted.

As shown in FIG. 5, the digital camera 100 is provided with a card slot 114 such that the insertional direction of the memory card 12 can be parallel to the optical axis of the taking lens 20. Hence, as shown in FIG. 6, the camera substrate 118, on which the card connector 116 is mounted, can have a larger mount area than the camera substrate 18 in FIG. 3.

As is the case in the embodiment described in FIGS. 1, 2 and 3, the memory card 12 is connected to the card connector 116 and is inserted into the camera 100 by about 1/4 thereof in the insertional direction. The present invention, however, is not restricted to this. At least, the memory card is inserted in such a state that more than 1/3 thereof in the insertional direction is exposed so that the user can grasp the memory card by the exposed part with fingers to pull it out. In these embodiments, the image data output from the built-in memory are relayed by the memory card; however, the camera body may be further provided with an NTSC video output terminal and/or a digital output terminal (e.g. RS-232C).

As set forth hereinabove, according to the digital camera of the present invention, there is no need to use the memory card during the photographing. Moreover, the whole memory card does not have to be housed in the camera body when the image data are transferred from the built-in memory to the memory card. Hence, a small-sized camera can be made without being restricted by the standards of the memory card. The image data are transferred from the built-in memory to the external memory such as the memory card, etc., and thus the capacity of the built-in

memory can be small. The built-in memory can be small-sized and low-priced, and the camera body can also be small-sized, lightweight and low-priced, as a result.

Furthermore, according to the present invention, when the external memory is connected to the connector of the camera, the transfer of the image data stored in the built-in memory and the initialization of the built-in memory are automatically performed. For this reason, the complicated operations are not required for the transfer of the image data and the initialization of the built-in memory, and the important image data can be prevented from being lost by the incorrect operation.

It should be understood, however, that there is no intention to limit the invention to the specific forms disclosed, but on the contrary, the invention is to cover all modifications, alternate constructions and equivalents falling within the spirit and scope of the invention as expressed in the appended claims.

CLAIMS

1. A digital camera which captures object images via a taking lens and an image pickup device, said digital camera comprising:

a camera body;

a built-in memory for storing image data representing captured object images, said built-in memory being provided in said camera body;

a detachable memory card for storing the image data, said memory card having a larger capacity than said built-in memory;

a card slot for receiving said memory card, said card slot being provided on said camera body;

a connector for connecting with said memory card, said connector being arranged at an inner end of said card slot;

memory control means for transferring the image data from said built-in memory to said memory card; and

wherein when said memory card is inserted into said card slot and connects to said connector, said memory card is partially exposed.

2. The digital camera as defined in claim 1, further comprising detecting means for detecting that said connector connects with said memory card, and wherein when said detecting means detects that said connector connects with said memory card, said memory control means transfers the image data stored in said built-in memory to said memory card and initializes said built-in memory to allow new capturing.

3. The digital camera as defined in claim 1, wherein said camera body in an insertional direction of said memory card is shorter than said memory card in the insertional direction of said memory card.

4. The digital camera as defined in claim 1, wherein when said memory card is inserted into said card slot and connects to said connector, said memory card is partially exposed so that a user can grasp said memory card by the exposed part with fingers to detach said memory card from said camera body.

5. The digital camera as defined in claim 1, wherein when said memory card is inserted into said card slot and connects to said connector, more than 1/3 of said memory card is exposed in an insertional direction of said memory card.

6. A digital camera which captures object images via a taking lens and an image pickup device, said digital camera comprising:

a built-in memory for storing image data representing captured object images, said built-in memory being provided in a camera body;

a detachable external memory for storing the image data, said external memory having a larger capacity than said built-in memory;

a connector for connecting with said external memory;

detecting means for detecting that said connector connects with said external memory;

memory control means for transferring the image data from said built-in memory to said external memory; and

wherein when said detecting means detects that said connector connects with said external memory, said memory control means transfers the image data stored in said built-in memory to said external memory and initializes said built-in memory to allow new capturing.

ABSTRACT OF THE DISCLOSURE

A digital camera stores image data, which represent object images captured via a taking lens and a charge coupled device, in a built-in memory, which is provided in a camera body and is able to store image data of plural object images. When the built-in memory is filled with the image data, a memory card is inserted into a card slot so that the memory card can connects to a card connector, and then the image data stored in the built-in memory are transferred to the memory card. In this case, more than 1/3 of the memory card in the insertional direction is exposed, and hence the camera can be small-sized without being restricted by standards of the memory card.

FIG. 1

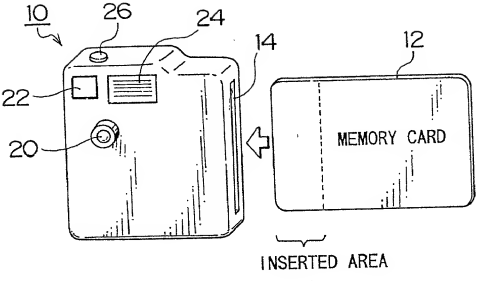

10
26
24
14
12
22
20
MEMORY CARD
INSERTED AREA

FIG. 2

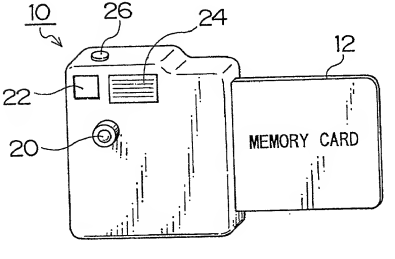

10
26
24
12
22
20
MEMORY CARD

FIG. 3

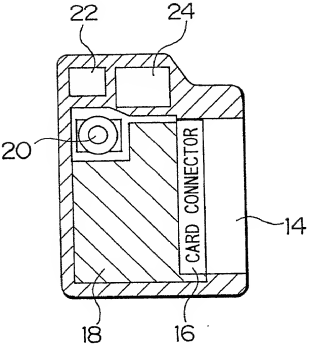


FIG. 4

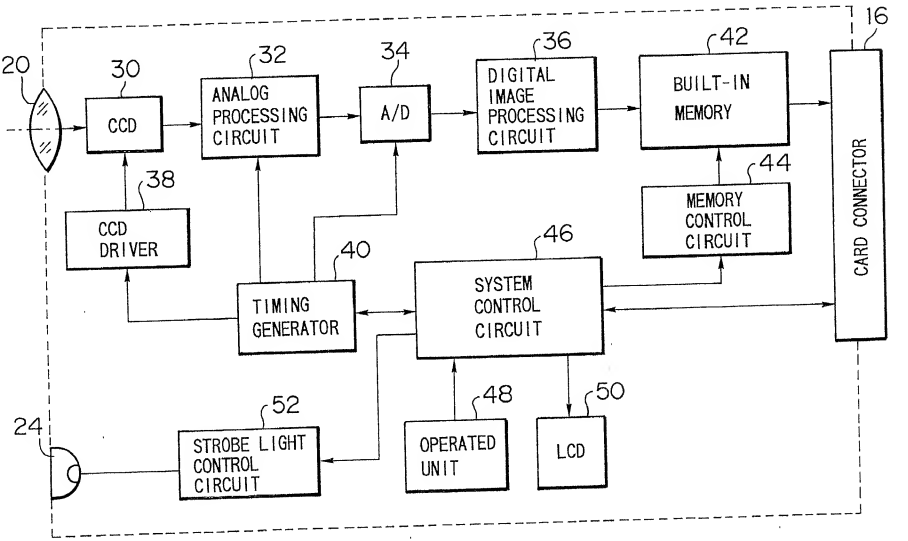


FIG. 5

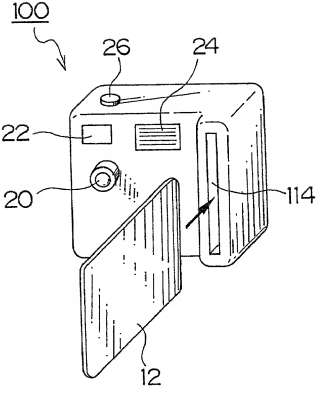
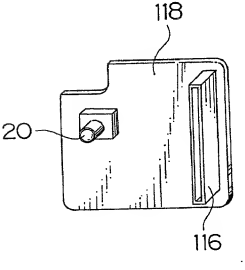


FIG. 6



BIRCH, STEWART, KOLASCH & BIRCH, LLP

ATTORNEY DOCKET NO.
879-188P

PLEASE NOTE: YOU MUST COMPLETE THE FOLLOWING:

COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT AND DESIGN APPLICATIONS

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:*

Insert Title

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Check Box If Appropriate - For Use Without Specification Attached

the specification of which is attached hereto unless the following box is checked:

☐ was filed on _____ as United States Application Number _____ or PCT International Application Number _____ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof, or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 (a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Insert Priority Information (if appropriate)

(Number)	(Country)	(Month/Day/Year Filed)	Priority Claimed
No.8-219519	Japan	August 21, 1996	☒ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

(Application Number) (Filing Date)

(Application Number) (Filing Date)

All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More Than 12 Months (6 Months for Designs) Prior To The Filing Date of This Application:

Country Application No. Date of Filing (Month/Day/Year)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Number) (Filing Date) (Status — patented, pending, abandoned)

(Application Number) (Filing Date) (Status — patented, pending, abandoned)

*NOTE: Must be completed.

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of First or Sole Inventor: Insert Name of Inventor Insert Date This Document Is Signed
Insert Residence Insert Citizenship
Insert Post Office Address

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Full Name of Fourth Inventor, if any: see above

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*

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Full Name of Fifth Inventor, if any: see above

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*

Residence (City, State & Country):
CITIZENSHIP:
POST OFFICE ADDRESS (Complete Street Address including City, State & Country):

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(USPTO Approved 3-90)